

A cassette for use in controlling the flow of IV fluid from a patient to a source. The cassette may include along the fluid passage through the cassette, first and second membrane-based valves (6, 7) on either side of a pressure-conduction chamber (50), and a stopcock-type valve (20). The stopcock valve is preferably located downstream of the second membrane-based valve (7), which is preferably located downstream of the pressure-conduction chamber (50). The membrane defining the valving chamber of the second membrane-based valve (7) is preferably large and resilient, so that the valving chamber (75) may provide a supply of pressurized intravenous fluid to the patient, when the valve (6) is closed and the stopcock valve (20) provides a restriction downstream of the valve (7). The pressure-conduction chamber (50) preferably has a membrane (41) that is stable in the empty-chamber position but relatively unstable in the filled-chamber position.

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